

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A projection apparatus for forming a tiled image on a display surface, said tiled image comprising at least a first, second, third, and fourth image tile segments segment and an adjacent second image tile segment, the projection apparatus comprising:

(a) an illumination system providing a first illumination beam having a first polarization state and a second illumination beam having a second polarization state, said first and second illumination beams being substantially non-overlapping spatially separated;

(b) a first spatial light modulator for forming a first modulated light beam from said first illumination beam;

(c) a second spatial light modulator for forming a second modulated light beam from said second illumination beam;

(d) a first beam aligner for directing said first and second modulated light beams along adjacent parallel paths, in the direction of the first and second modulated light beams being substantially non-overlapping and parallel to an optical axis of a projection lens; and

(e) said illumination system providing a third illumination beam having a first polarization state and a fourth illumination beam having a second polarization state, said third and fourth illumination beams being spatially separated;

(f) a third spatial light modulator for forming a third modulated light beam from said third illumination beam;

(g) a fourth spatial light modulator for forming a fourth modulated light beam from said fourth illumination beam;

(h) a second beam aligner for directing said third and fourth modulated light beams along adjacent parallel paths, the third and fourth modulated light beams being substantially non-overlapping;

(i) a beamsplitter which redirects said third and fourth modulated light beams parallel to said optical axis of said projection lens and transmits said first and second modulated light beams; and
said projection lens directing said first, second, third, and fourth modulated beams beam to said display surface to form the first, second, third, and fourth tile segment segments and directing said second modulated beam to said display surface to form the second tile segment.

2. (currently amended) A projection apparatus according to claim 1 wherein said first beam aligner comprises a polarization beamsplitter.

3. (original) A projection apparatus according to claim 1 wherein said first spatial light modulator is a transmissive LCD.

4. (original) A projection apparatus according to claim 1 wherein said first spatial light modulator is a reflective LCD.

5. (original) A projection apparatus according to claim 1 further comprising an analyzer in the path of said first modulated beam.

6. (original) A projection apparatus according to claim 1 wherein said illumination system comprises a polarization beamsplitter.

7. (original) A projection apparatus according to claim 1 wherein said illumination system comprises a light source selected from the group consisting of a lamp and an LED.

8. (original) A projection apparatus according to claim 1 wherein said illumination system sequentially provides light having a first color, followed by light having a second color, followed by light having a third color.

9. (original) A projection apparatus according to claim 1 further comprising a half-wave plate in the path of said first modulated beam.

16. (currently amended) A projection apparatus for forming a tiled image on a display surface, said tiled image comprising at least four contiguous image tile segments, the projection apparatus comprising:

- (a) an illumination system providing a first illumination beam having a first polarization state and a second illumination beam having a second polarization state, said first and second illumination beams being substantially non-overlapping spatially separated;
- (b) a first spatial light modulator for forming a first modulated light beam from said first illumination beam;
- (c) a second spatial light modulator for forming a second modulated light beam from said first illumination beam;
- (d) a third spatial light modulator for forming a third modulated light beam from said second illumination beam;
- (e) a fourth spatial light modulator for forming a fourth modulated light beam from said second illumination beam;
- (f) a beam aligner for directing said first, second, third, and fourth modulated light beams along adjacent parallel paths, in the direction of the optical axis of a projection lens, said first, second, third, and fourth modulated light beams being substantially non-overlapping; and
- (g) said projection lens directing each said modulated beam to the display surface to form each of said at least four contiguous image tile segments.

17. (currently amended) A method for forming a tiled image on a display surface, said tiled image comprising at least a first, second, third, and fourth image tile segments, segment and an adjacent second image tile segment, the method comprising:

- (a) providing a first illumination beam having a first polarization state and a second illumination beam having the orthogonal polarization state, wherein the first and second illumination beams are spatially separated;

(b) forming a first modulated light beam from said first illumination beam;

(c) forming a second modulated light beam from said second illumination beam;

(d) aligning said first and second modulated light beams along separate, adjacent parallel paths, in the direction of the optical axis of a projection lens; and

(e) providing a third illumination beam having a first polarization state and a fourth illumination beam having the orthogonal polarization state, wherein the third and fourth illumination beams are spatially separated;

(f) forming a third modulated light beam from said third illumination beam;

(g) forming a fourth modulated light beam from said fourth illumination beam;

(h) aligning said third and fourth modulated light beams along separate, adjacent parallel paths;

(i) redirecting said third and fourth modulated light beams parallel to the optical axis of the projection lens; and

(e j) projecting at least said first, second, third, and fourth modulated beams to said display surface, in a substantially non-overlapping manner, to form the first, second, third, and fourth tile segments and said second modulated beam to said display surface to form the adjacent second tile segment.

18. (original) A method for forming a tiled image according to claim 17 wherein the step of forming said first modulated light beam comprises the step of directing said first illumination beam to a reflective spatial light modulator.

19. (original) A method for forming a tiled image according to claim 17 wherein the step of forming said first modulated light beam comprises the step of directing said first illumination beam to a transmissive spatial light modulator.

20. (original) A method for forming a tiled image according to claim 17 wherein the step of providing said first illumination beam comprises the step of providing a beam having a repeating sequence of different colors.

21. (new) A projection apparatus for forming a tiled image on a display surface, said tiled image comprising at least a first, second, third, and fourth image tile segments, the projection apparatus comprising:

(a) an illumination system providing a first illumination beam having a first polarization state and a second illumination beam having an orthogonal polarization state, said first and second illumination beams being spatially separated;

(b) a projection lens having a projection lens optical axis;

(c) a first beam aligner for receiving a first modulated light beam from a first spatial light modulator disposed at a first position, for receiving a second modulated light beam from a second spatial light modulator disposed at a second position and for directing the first modulated light beam and second modulated light beams in parallel to said projection lens optical axis, said first and second modulated light beams being substantially non-overlapping;

(d) wherein the illumination system further provides a third illumination beam having said first polarization state and a fourth illumination beam having said orthogonal polarization state, said third and fourth illumination beams being spatially separated;

(e) a second beam aligner for receiving said third modulated light beam from a third spatial light modulator disposed at a third position, for receiving said fourth modulated light beam from a fourth spatial light modulator disposed at a fourth position and for directing the third modulated light beam and fourth modulated light beams in parallel with respect to each other and substantially perpendicular to said projection lens optical axis, said third and fourth modulated light beams being substantially non-overlapping; and

(f) a beamsplitter for transmitting said first and second modulated light beams parallel to said projection lens optical axis and for redirecting said third and fourth modulated light beams parallel to said projection lens optical axis, thereby directing said first, second, third, and fourth modulated

light beams in parallel to said projection lens optical axis and wherein said first, second, third, and fourth modulated light beams are substantially non-overlapping.